

## Introducing learning creative mathematical activity for students in extra mathematics teaching

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### Abstract

The objective of the research is determined by the need to introduce creative learning mathematics activities for school students, because that is one of the ways of ensuring the effective acquisition of knowledge at the inter-subject level and further successful adaptation while choosing a future career. Moreover, the resources of extra mathematics teaching at a general secondary school can be widely used. Thus, the purpose of the research is a) studying the theoretical basis for stimulating creative learning mathematics activities for the students and b) developing the teaching techniques of this stimulation in extra mathematics teaching at general secondary schools. The leading methods are a) modeling the task systems ensuring the development of the five types of learning activities: reproductive, productive, research, project, and project-research and b) the system analysis of the selections of experimental data based on estimating three criteria: fluency - the ability to generate a lot of ideas; flexibility - the ability to produce different ideas; ingenuity - the ability to react unconventionally. The experimental research has been carried out since 2001 and the problem systems characteristic of the five types of learning activities have been used. Subsequently, methodological approaches in extra mathematics teaching have been developed introducing creative mathematics activities for students.

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### Keywords

Creative learning mathematics activity, Extra mathematics teaching, Inter-subject connections, Learning mathematics activities, Project mathematics activities, Research activities of students

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